

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:  
CARL B. WISCHHUSEN  
WILMER CUTLER PICKERING HALE AND DORR LLP  
399 PARK AVENUE  
NEW YORK, NY 10022

## PCT

### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 0109878.00144WO1	Date of Mailing (day/month/year) <b>23 JUL 2008</b>
International application No. PCT/US07/86150	International filing date (day/month/year) 30 November 2007 (30.11.2007)
Applicant ENDECA TECHNOLOGIES, INC.	

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**  
The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

**Where?** Directly to the International Bureau of WIPO, 34, chemin des Colombettes  
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 338.82.70.

**For more detailed instructions,** see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

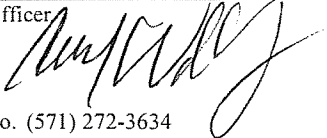
4. **Reminders**

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90 *bis*.1 and 90 *bis*.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/ US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Tim Vo  Telephone No. (571) 272-3634
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# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 0109878.00144WO1	<b>FOR FURTHER ACTION</b>	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US07/86150	International filing date ( <i>day/month/year</i> ) 30 November 2007 (30.11.2007)	(Earliest) Priority Date ( <i>day/month/year</i> ) 30 November 2006 (30.11.2006)
Applicant ENDECA TECHNOLOGIES, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

#### 1. Basis of the Report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/86150

## A. CLASSIFICATION OF SUBJECT MATTER

IPC: G06F 7/00( 2006.01),17/30( 2006.01),17/00( 2006.01)

USPC: 707/1,5,7,100

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 707/1,5,7,100

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,212,517 (Sato et al.) 3 April 2001, Col. 1, 3, 4, 5, 10, 16	1, 2, 10-13, 27, 31-34, 42-45 and 64-66
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Y		3-9, 14-26, 28-30, 35- 41, 46-63
Y	US 2003/0217335 (Chung et al.) 20 November 2003 Para. [0194],[0183],[0103],[0118],[0128],[0041]	3-9, 17-22, 25, 35-41, 49-54 and 57
Y	ORACLE8 The complete Reference (George Koch, Kevin Loney) 1997. Osborne McGraw- Hill, page 68	5-7, 28-30, 37-39 and 60-62
Y	US 2006/0224581 (Sasai) 5 October 2006, Para. [0119], [0153]	23, 24, 26, 55, 56 and 58
Y	US 2005/01656780 (Omega et al.) 28 July 2005, Para. [0002]	14 and 46



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:		"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

22 May 2008 (22.05.2008)

Date of mailing of the international search report

23 JUL 2008

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner of Patents  
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Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

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Tim Vo

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# INTERNATIONAL SEARCH REPORT

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## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0210042 (Goedken) 22 September 2005, Para. [0086]	15, 16, 47 and 48

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

# PCT

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To: CARL B. WISCHHUSEN WILMER CUTLER PICKERING HALE AND DORR LLP 399 PARK AVENUE NEW YORK, NY 10022			<b>PCT</b>  WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY  (PCT Rule 43bis.1)		
Applicant's or agent's file reference 0109878.00144WO1			Date of mailing (day/month/year) <b>23 JUL 2008</b> <b>FOR FURTHER ACTION</b> See paragraph 2 below		
International application No. PCT/US07/86150	International filing date (day/month/year) 30 November 2007 (30.11.2007)	Priority date (day/month/year) 30 November 2006 (30.11.2006)			
International Patent Classification (IPC) or both national classification and IPC IPC: <b>G06F 7/00( 2006.01),17/30( 2006.01),17/00( 2006.01)</b> USPC: 707/1,5,7,100					
Applicant ENDECA TECHNOLOGIES, INC.					

1. This opinion contains indications relating to the following items:

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Date of completion of this opinion 22 July 2008 (22.07.2008)	Authorized officer Tim Vo Telephone No. (571) 272-3634
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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ on paper

☐ in electronic form

c. time of filing/furnishing

☐ contained in the international application as filed.

☐ filed together with the international application in electronic form.

☐ furnished subsequently to this Authority for the purposes of search.

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

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Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>3-9,14-26,28-30,35-41,46-63 and 67-69</u>	YES
	Claims <u>1,2,10-13,27,31-34,42-45 and 64-66</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-69</u>	NO
Industrial applicability (IA)	Claims <u>1-69</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Please See Continuation Sheet

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

**V. 2. Citations and Explanations:**

Claims 1, 2, 10-13, 27, 31-34, 42-45 and 64-66 lack novelty under PCT Article 33(2) as being anticipated by Sato et al. (U.S. Patent Number 6,212,517).

Referring to claim 1, Sato et al. teaches a computer program product, residing on a computer-readable medium (the software elements are preferably stored in the hard disc, see Col. 3, lines 15-16), for use in accessing information associated with a collection of items, the computer program product comprising instructions for causing a computer to:

access a plurality of items (document database, see Col. 3, line 11) and a first plurality of properties (words, see Abstract, line 3), each item being associated with one or more properties from the first plurality of properties (each words contained in the selected texts, see Abstract, line 10);

obtain an original result set of at least one item from the plurality of items in response to a search query (receiving a query request and returning a list of text ID of retrieved texts, see Col. 1, line 42-43);

identify a second plurality of properties from the first plurality of properties, wherein each of the second plurality of properties is associated with at least one item in the original result set (selected text list of text IDs of the found texts, see Col. 5, line 52-53, each record of a local statistic table for a text  $T_i$  comprises the fields of a word ID of a word which appears at least once in the text  $T_i$ , see Col. 4, lines 5-7);

group a third plurality of properties selected from the second plurality of properties into one or more clusters of properties by applying a similarity measure to assign more similar properties to the same cluster and less similar properties to distinct clusters, wherein at least one cluster includes two or more properties (classifying said sorted words by statistical data of said sorted words into groups of similar keywords, see Col. 16, lines 2-4); and

provide a response to the search query including a representation of at least one cluster of the one or more clusters of properties (in stead of displaying word groups as they are, words which are position at higher nodes on the thesaurus may be displayed as representative words, see Col. 12, lines 48-51).

As to claim 2, the computer program product of claim 1, wherein the search query includes a free-text component (enter instruction and data, see Col. 3, lines 56-57).

As to claim 10, Sato et al. teaches the first plurality of properties are associated with the plurality of items and stored beforehand (each record of the global statistic table comprises the fields of a word ID of a word which appears in any of the texts  $T_1$  through  $T_M$  of DDB, see Col. 4, lines 13-15).



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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

As to claim 11, Sato et al. teaches the first plurality of properties are associated with plurality of items at the time the search query is executed (the related keyword generator calculates in step 320, for each (W<sub>j</sub>) of the words contained in the texts listed in the selected text list, see Col. 5, lines 58-60).

As to claim 12, Sato et al. teaches the items are documents that include text and the properties include salient terms extracted from the text (related keywords, see Col. 3, line 55).

As to claim 13, Sato et al. teaches include instructions for causing a computer to compute the union of all properties that are associated with at least one item in the original result set (for each (W<sub>j</sub>) of the words contained in the texts listed in the selected text list, see Col. 5, lines 59-60).

As to claim 27, Sato et al. teaches translating a particular cluster of the one or more clusters into a search expression (automatically generating said query request by using at least a pair of said predetermined number of said related words, see Col. 16, lines 19-21).

As to claim 31, Sato et al. teaches assigns relative weights to the properties in the particular cluster (calculating the degree of importance of a word, see Col. 10, lines 29-30).

As to claim 32, the computer program product of claim 1, wherein the third plurality of properties includes fewer properties than the second plurality of properties (classifying said sorted words by statistical data of said sorted words into groups of similar keywords, see Col. 16, lines 2-4. Note: every group of keywords can be fewer than all keywords).

Referring to Claim 33, Sato et al. teaches, a computer-implemented method for accessing information associated with a database including a plurality of items and a first plurality of properties, each item being associated with one or more properties from the first plurality of properties, which recites the corresponding limitations as set forth in claim 1 above, therefore it is objected.

Claim 34 is objected under the same rationale as state in claim 2 rejections.

Claims 42-45 is objected under the same rationale as state in claims 10-13 rejections.

Claim 64 is objected under the same rationale as state in claim 32 rejections.

As to claim 65, Sato et al. teaches a computer program product, residing on a computer-readable medium (the software elements are preferably stored in the hard disc, see Col. 3, lines 15-16), for use in accessing information associated with a collection of items, the computer program product comprising instructions for causing a computer to:  
access a plurality of items (document database, see Col. 3, line 11) and a first plurality of properties (words, see Abstract, line 3), wherein the properties are information-bearing values (words, see Abstract, line 3), each item being associated with one or more properties from the first plurality of properties (each words contained in the selected texts, see Abstract, line 10), wherein the one or more properties associated with a item are contained in or describe the item (words, see Abstract, line 3);

obtain an original result set of at least one item from the plurality of items in response to a search query (receiving a query request and returning a list of text ID of retrieved texts, see Col. 1, line 42-43);

identify a second plurality of properties from the first plurality of properties, wherein each of the second plurality of properties is associated with at least one item in the original result set (selected text list of text IDs of the found texts, see Col. 5, line 52-53, each record of a local statistic table for a text T<sub>i</sub> comprises the fields of a word ID of a word which appears at least once in the text T<sub>i</sub>, see Col. 4, lines 5-7);

group a third plurality of properties selected from the second plurality of properties into one or more clusters of properties by applying a similarity measure to assign more similar properties to the same cluster and less similar properties to distinct clusters, wherein at least one cluster includes two or more properties (classifying said sorted words by statistical data of said sorted words into groups of similar keywords, see Col. 16, lines 2-4); and

provide a response to the search query including a representation of at least one cluster of the one or more clusters of properties (in stead of displaying word groups as they are, words which are position at higher nodes on the thesaurus. may be displayed as representative words, see Col. 12, lines 48-51).

As to claim 66, Sato et al. teaches an information access system (text retrieval system, see Abstract, line 2), comprising:

a first stored collection including a plurality of materials (document database, see Col. 3, line 11);

a second stored collection including a first plurality of properties, wherein each item in the plurality of materials is associated with at least one property from the first plurality of properties (each record of a local statistic table for a text T<sub>i</sub> comprises the fields of a word ID of a word which appears at least once in the text T<sub>i</sub>, see Col. 4, lines 5-7);

logic to perform a search against the first stored collection to obtain a result set of materials from the collection that

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

match the search query (receiving a query request and returning a list of text ID of retrieved texts, see Col. 1, line 42-43);  
logic to derive a second plurality of properties from the second stored collection wherein each property in the second plurality of properties is associated with at least one item in the result set (selected text list of text IDs of the found texts, see Col. 5, line 52-53, each record of a local statistic table for a text  $T_i$  comprises the fields of a word ID of a word which appears at least once in the text  $T_i$ , see Col. 4, lines 5-7);

logic to group a third plurality of properties into one or more clusters of properties by applying a similarity measure to assign more similar properties to the same cluster and less similar properties to distinct clusters, wherein at least one cluster includes two or more properties (classifying said sorted words by statistical data of said sorted words into groups of similar keywords, see Col. 16, lines 2-4); and

logic to provide a response to the search query including at least one cluster of the one or more clusters of properties (in stead of displaying word groups as they are, words which are position at higher nodes on the thesaurus may be displayed as representative words, see Col. 12, lines 48-51).

Claims 3, 4, 8, 9, 17-22, 25, 35, 36, 40, 41, 49-54 and 57 lack an inventive step under PCT Article 33(3) as being obvious over Sato et al. (U.S. Patent Number 6,212,517) in view of Chung et al. (U.S. Patent Publication 2003/0217335).

As to claim 3, Sato et al. does not explicitly teach search query includes a selection from a plurality of options.

However, Chung et al. teaches search query includes a selection from a plurality of options (a query may be automatically generated for each node in the concept hierarchy or any part of the hierarchy selected by the user, see Chung et al., Para. [0194], lines 10-12).

As to claim 4, Sato et al. does not explicitly teach instructions for causing a computer to identify, for a particular cluster of properties of the one or more clusters of properties, one or more corresponding items from the plurality of items that correspond to the particular cluster of properties according to a mapping function, and wherein the instructions for causing a computer to provide a response to the search query include instructions for including one or more corresponding items for the at least one cluster in the response.

However, Chung et al. teaches instructions for causing a computer to identify, for a particular cluster of properties of the one or more clusters of properties (concept, see Chung et al., Para. [0183], line 8), one or more corresponding items from the plurality of items that correspond to the particular cluster of properties according to a mapping function (automatically creates queries for concepts, see Chung et al., Para. [0183], lines 7-8), and wherein the instructions for causing a computer to provide a response to the search query include instructions for including one or more corresponding items for the at least one cluster in the response (a query associates a concept with the relevant documents from among the documents in the corpus, see Chung et al., Para. [0183], lines 8-10).

As to claim 8, Sato et al. as modified teaches applying the mapping function is restricted to the items in the original result set (see Chung et al., FIG. 11. There are many child nodes under aircraft+war and the search result from any of one child node would be limited to the search result of aircraft+war).

As to claim 9, Sato et al. as modified teaches instructions for causing a computer to translate the particular cluster to a search expression that satisfies the mapping function (a query may be automatically generated for each node in the concept hierarchy or any part of the hierarchy selected by the user, see Chung et al., Para. [0194], lines 10-12).

As to claim 17, Sato et al. does not explicitly teach a pair-wise similarity measure.

However, Chung et al. teaches a pair-wise similarity measure (the similarity measure quantifies the similarity between the pairs of signatures, see Chung et al., Para. [0103], lines 2-3).

As to claim 18, Sato et al. as modified teaches compute a number of items associated with both properties (co-occurrence frequency of signatures 's' and 't' after  $i^{\text{th}}$  iteration, see Chung et al., Para. [0118], lines 1-2).

As to claim 19, Sato et al. as modified teaches compute a number of items associated with both properties relative to a number of items associated with at least one of the properties (refining co-occurrence frequency distribution of signatures in the corpus of documents; and disambiguating signature with a high occurrence frequency to account for the possibility of multiple senses for a signature, see Chung et al., claim 6, lines 3-7).

As to claim 20, Sato et al. as modified teaches compute a number of items associated with both properties relative to a number of items associated with a more frequent property of the two properties (a higher similarity measure is assigned to reflect the relationship of such signatures which are related but which do not co-occur frequently, see Chung et al., Para. [0128], lines 4-6).

As to claim 21, Sato et al. does not explicitly teach causing a computer to present at least one option for using one or more particular clusters from the one or more clusters to generate a second search query.

However, Chung et al. teaches causing a computer to present at least one option for using one or more particular clusters from the one or more clusters to generate a second search query (FIG. 10 is a screen shot of a GUI that displays

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

the concept hierarchy and allows a user to retrieve relevant documents by automatically generating a query, see Chung et al., Para. [0183], lines 2-5).

As to claim 22, Sato et al. as modified teaches combining the search query with at least one of the one or more particular clusters (FIG. 10 is a screen shot of a GUI that displays the concept hierarchy and allows a user to retrieve relevant documents by automatically generating a query, see Chung et al., Para. [0183], lines 2-5).

As to claim 25, Sato et al. as modified teaches a lateral query formed from at least one of the one or more particular clusters without using the search query (The method involves extraction of signatures from the corpus of documents for clustering related signature to generate concepts. The similarity between signatures is computed using a statistical measure. The distribution of signatures in the corpus is refined to alleviate any inaccuracy in the similarity measure, see Chung et al., Para. [0041], lines 5-10).

Claim 35 is objected under the same rationale as state in claim 3 rejections.

Claim 36 is objected under the same rationale as state in claim 4 rejections.

Claim 40 is objected under the same rationale as state in claim 8 rejections.

Claim 41 is objected under the same rationale as state in claim 9 rejections.

Claims 49-54 are objected under the same rationale as state in claims 17-22 rejections.

Claim 57 is objected under the same rationale as state in claim 25 rejections.

Claims 5-7 and 37-39 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Koch et al. (ORACLE8 The complete Reference, 1997, Osborne McGraw-Hill, page 68).

As to claim 5, Sato et al. as modified does not explicitly teach a partial match technique.

However, Koch et al. teaches a partial match technique (AND and OR, see Koch et al., page 68, line 4, a SQL statement can reach a partial match by combining AND and OR logic in where clause).

As to claim 6, Sato et al. as modified does not explicitly teach a match-all technique.

However, Koch et al. teaches a match-all technique (AND, see Koch et al., page 68, line 4, a SQL statement can reach a match-all by using only AND logic in where clause).

As to claim 7, Sato et al. as modified does not explicitly teach a match-any technique.

However, Koch et al. teaches a match-any technique (OR, see Koch et al., page 68, line 4, a SQL statement can reach a match-any by using OR logic in where clause).

Claims 37-39 are objected under the same rationale as state in claims 5-7 rejections.

Claims 14 and 46 lack an inventive step under PCT Article 33(3) as being obvious over Sato et al. (U.S. Patent Number 6,212,517) in view of Omega et al. (U.S. Patent Publication 2005/01656780).

As to claim 14, Sato et al. teaches to compute the union of all properties that are associated (for each (Wj) of the words contained in the texts listed in the selected text list, see Sato et al., Col. 5, lines 59-60).

However, Sato et al. does not explicitly teach with at least a threshold number of items in the original result set. Omega et al. teaches with at least a threshold number of items in the original result set (the number of documents considered has reached a threshold amount, see Omega et al., Para. [0019], lines 10-11).

Claim 46 is objected under the same rationale as state in claim 14 rejections.

Claims 15, 16, 47 and 48 lack an inventive step under PCT Article 33(3) as being obvious over Sato et al. (U.S. Patent Number 6,212,517) in view of Goedken (U.S. Patent Publication 2005/0210042).

As to claim 15, Sato et al. teaches to compute the union of all properties that are associated (for each (Wj) of the words contained in the texts listed in the selected text list, see Sato et al., Col. 5, lines 59-60).

However, Sato et al. does not explicitly teach with at most a ceiling number of items in the original result set.

Goedken teaches with at most a ceiling number of items in the original result set (the number of documents the

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

user prefers to find, see Goedken, Para. [0086], lines 11-12, wherein user defined number is interpreted as the ceiling number).

As to claim 16, the Sato et al. teaches the original result set (selected text list, see Sato et al., Col. 5, lines 59-60). However, Sato et al. does not explicitly teach sample result set.

Goedken teaches sample result set (the number of documents the user prefers to find, see Goedken, Para. [0086], lines 11-12, user defines the number of document to be consider is sampling documents from a result set).

Claims 47 and 48 are objected under the same rationale as state in claims 15 and 16 rejections.

Claims 23, 24, 26, 55, 56, 58 and 59 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Sasai (U.S. Patent Publication 2006/0224581).

As to claim 23, Sato et al. as modified does not explicitly teach conjunctively combining the search query with at least one of the one or more particular clusters.

However, Sasai teaches conjunctively combining the search query with at least one of the one or more particular clusters (the search keyword group corresponding to the editing operation is changed, thereby generating the search keyword group for re-search, see Sasai, Para. [0153], lines 2-5).

As to claim 24, Sato et al. as modified does not explicitly teach disjunctively combining the search query with at least one of the one or more the particular clusters.

However, Sasai teaches disjunctively combining the search query with at least one of the one or more the particular clusters (search keyword corresponding to the selection button can be excluded from the search keyword group for re-search, see Sasai, Para. [0119], lines 7-8).

As to claim 26, Sato et al. as modified teaches one option for using one or more particular cluster to generate a query (a query is created for concept 'aircraft+war' are displayed in window. The retrieved documents are displayed in window, see Chung et al., Para. [0183], lines 13-21).

However, Sato et al. as modified does not explicitly teach to accept a selection to generate a second search query, and to execute the second search query.

Sasai teaches to accept a selection to generate a second search query, and to execute the second search query (the search keyword group corresponding to the editing operation is changed, thereby generating the search keyword group for re-search, see Sasai, Para. [0153], lines 2-5).

Claims 55 and 56 are objected under the same rationale as state in claims 23 and 24 rejections.

Claim 58 is objected under the same rationale as state in claim 26 rejections.

As to claim 59, Sato et al. as modified teaches translating a particular cluster of the one or more clusters into a search expression to generate the second search query (automatically generating said query request by using at least a par of said predetermined number of said related words, see Sato et al., Col. 16, lines 19-21).

Claims 28-30 lack an inventive step under PCT Article 33(3) as being obvious over Sato et al. (U.S. Patent Number 6,212,517) in view of Koch et al. (ORACLE8 The complete Reference, 1997, Osborne McGraw-Hill, page 68).

As to claim 28, Sato et al. as modified teaches the properties in the particular cluster (related keywords, see Sato et al., Col. 3, line 55).

However, Sato et al. as modified does not explicitly teach to match all.

Koch et al. teaches to match all (AND, see Koch et al., page 68, line 4, a SQL statement can reach a match-all by using only AND logic in where clause).

As to claim 29, Sato et al. as modified teaches the properties in the particular cluster (related keywords, see Sato et al., Col. 3, line 55).

However, Sato et al. as modified does not explicitly teach to match at least one.

Koch et al. teaches to match at least one (OR, see Koch et al., page 68, line 4, a SQL statement can reach a match-any by using OR logic in where clause).

As to claim 30, Sato et al. as modified teaches the properties in the particular cluster (related keywords, see Sato et al., Col. 3, line 55).

However, Sato et al. as modified does not explicitly teach to match at least one but not all.

Koch et al. teaches teach to match at least one but not all (OR, see Koch et al., page 68, line 4, AND, see Koch et al., page 68, line 4, line 30, !=, see Koch et al., page 1120. Note: a SQL statement can reach match at least one but not all by using AND/OR/!= logic in where clause).

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In case the space in any of the preceding boxes is not sufficient.

Claims 60-63 lack an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Koch et al. (ORACLE8 The complete Reference, 1997, Osborne McGraw-Hill, page 68).

As to claim 60, Sato et al. as modified teaches the properties in the at least one cluster of the one or more particular clusters (related keywords, see Sato et al., Col. 3, line 55).

However, Sato et al. as modified does not explicitly teach matching all.

Koch et al. teaches matching all (AND, see Koch et al., page 68, line 4, a SQL statement can reach a match-all by using only AND logic in where clause).

As to claim 61, Sato et al. as modified teaches the properties in the at least one cluster of the one or more particular clusters (related keywords, see Sato et al., Col. 3, line 55).

Sato et al. as modified does not explicitly teach matching at least one.

However, Koch et al. teaches matching at least one (OR, see Koch et al., page 68, line 4, a SQL statement can reach a match-any by using OR logic in where clause).

As to claim 62, Sato et al. as modified teaches the properties in the at least one cluster of the one or more particular clusters (related keywords, see Sato et al., Col. 3, line 55).

However, Sato et al. as modified does not explicitly teach matching at least one but not all.

Koch et al. teaches teach matching at least one but not all (OR, see Koch et al., page 68, line 4, AND, see Koch et al., page 68, line 4, line 30, !=, see Koch et al., page 1120. Note: a SQL statement can reach match at least one but not all by using AND/OR/!= logic in where clause).

As to claim 63, the Sato et al. as modified teaches assigns relative weights to the properties in the at least one cluster of the one or more particular clusters (calculating the degree of importance of a word, see Sato et al., Col. 10, lines 29-30).

Claim 67 is objected under the same rationale as state in claims 33-64 rejections.

Claim 68 is objected under the same rationale as state in claim 67 rejections.

Claim 69 is objected under the same rationale as state in claims 33-64 rejections.

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

**The following examples illustrate the manner in which amendments must be explained in the accompanying letter:**

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### **"Statement under Article 19(1)" (Rule 46.4)**

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

**It must be in the language in which the international application is to be published.**

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### **Consequence if a demand for international preliminary examination has already been filed**

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

If a demand for international preliminary examination is made, the written opinion of the International Searching Authority will, except in certain cases where the International Preliminary Examining Authority did not act as International Searching Authority and where it has notified the International Bureau under Rule 66.1bis(b), be considered to be a written opinion of the International Preliminary Examining Authority. If a demand is made, the applicant may submit to the International Preliminary Examining Authority a reply to the written opinion together, where appropriate, with amendments before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later (Rule 43bis.1(c)).

### **Consequence with regard to translation of the international application for entry into the national phase**

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see the *PCT Applicant's Guide*, Volume II.